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ABSTRACT

Forming a consortium to share the financial burden of bringing microcomputer hardware and software into the schools is one way that small schools can maintain educational quality and equity in a time of rapidly increasing microcomputer technology. Six small schools in Missouri, in conjunction with the Missouri Department of Elementary and Secondary Education (DESE) formed a consortium in 1982 to employ a computer technolgist to provide in-service training for teachers at each of the participating schools and to work toward the development of educational microcomputer applications. In a regular schedule of visits to the schools and to DESE, the technologist provided teacher in-service, focusing on upgrading faculty and administrative computer literacy, developing computer assisted instruction, exploring the use of microcomputers for instructional management, and developing an awareness of available microcomputer networks. The consortium efforts resulted in local computer interest groups, a wide range of available software, economical cooperative hardware purchases, and greater cooperation among the schools. Cooperative school consortia seem to work effectively when used with three to eight schools of similar size, located close together. Formal organization and leadership are not necessary although one school should serve as fiscal agent. Outside resource persons can be helpful. (SB)

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FACILITATING INSTRUCTIONAL USE OF MICROCOMPUTERS IN SMALL SCHOOLS

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Facilitating Instructional Use of Microcomputers in Small Schools

Introduction

The current literature in both education and the popular press reveals a tremendous increase in the use of microcomputers as an instructional tool. It is estimated that there are now nearly 100,000 microcomputers in use in our nations schools (1) and it is projected that by 1990 everyone will be able to carry a pocket computer that will provide access to an unbelievable amount of information (3). Like it or not, it appears that schools are facing the challenge of preparing young people to live and work in the "age of computers." Indeed, projections indicate that 685,000 of the jobs created in the next decade will involve computer operations (2). Far more jobs will involve computer technology in the production, retrieval, storage and dissemination of information.

The obvious impact of computers in education poses both positive and not so positive consequences, especially for small schools. Positive aspects include the possibility of expanding course offerings and in-service opportunities for teachers and the potential to remove some of the barriers of isolation which have traditionally hampered educational efforts in many rural communities. Also encouraging is the positive, relective and systematic approach that small school districts appear to be taking toward the issue of microcomputers as a medium of instruction. Unlike the "teaching machine" era of the 60's and 70's it seems that dwindling resources have forced educators in rural districts to move more cautiously and deliberately. Hopefully, this will result in the more effective use of this technology in the classrooms.

On a less optimistic note for small schools is the question of equity in computer education. This concern is highlighted by a survey that found

80% of the nations largest and wealthiest schools used microcomputers while only 40% of the smaller, less affluent schools had this technology (5). The issue of equity also surfaces in terms of instructional use as indicated by the following observation by Watt (6):

> "When computers are introduced into suburban schools, it is often in the context of computer programming and computer awareness courses. In less affluent, rural or inner city schools, computer use is likely to be in the context of computer assisted instruction of the drill and practice variety."

Such information will not come as a surprise to a rural (p. 59) constituency which is no stranger to neglect or inequity in terms of education (4). However, the inability to cope with the rapid increase in micro technology might render a severe blow to the quality of education in rural communities, thus widening the equity gap. To provide equal educational opportunities in an era of declining resources, small schools will have to find creative answers to the problems of financing microcomputer hardware and software and preparing teachers to utilize this medium of instruction. The remainder of this paper will discuss one such creative approach to facilitating microcomputer instruction in small school districts.

Small Schools Consortium Project

Impetus for the Mid-Missouri Small Schools Consortium originated in August 1982 at an informal meeting of superintendents from seven small mid-Missouri schools, representatives of the University of Missouri and the Missouri Department of Elementary and Secondary Education (DESE). That meeting was held at the instigation of McREL which had previously contacted Missouri DESE to determine if there was any interest in developing a small schools project. The August meeting was arranged to discuss problems unique to small schools and to determine if there were any ideas of sufficient promise and

interest to warrant establishing a project. After a relatively unproductive discussion of several hours, the superintendents were asked if they would like to meet again and if so, what they would like to focus on. One superintendent volunteered that each school in his district had one or more small computers but that they were doing little with them. That comment sparked unanimous interest and it was agreed to meet again at the University of Missouri in October to discuss the problems and potential of microcomputers. At the October meeting various University microcomputer specialists were to meet with the group and to discuss some of the educational applications with them.

The Mid-Missouri Samll Schools Consortium was born at the October meeting at the University. All seven of the superintendents attending the original meeting were present along with representatives from Missouri DESE, McREL and the University. As various University staff made presentations concerning state of the art and the educational potential of microcomputers, the interest of the superintendents increased, but was tempered by the realization of resource limitations.

A top priority emerging among the superintendents at this session was the need to provide in-service training to faculty and staff. Following lunch one superintendent proposed the idea of a consortium as a vehicle for the schools to jointly employ a computer technologist to work individually with each school to provide on site in-service training to teachers and to work toward developing educational applications appropriate to each school. Before the meeting adjourned the superintendents had tentatively agreed to organize such a consortium, to jointly participate in funding it, and to begin operation as quickly as possible. One superintendent said he knew of a potential consultant and that he would be glad to contact him on behalf of the newly emerging consortium. The group then agreed to meet within 3 weeks

(after they had discussed the consortium with their respective boards) to work out the organizational details of the consortium and, if a suitable consultant had been found, to reach agreement on the terms of employment.

Upon finding a suitable consultant, each school agreed to contribute equally to the technologist salary. Operating procedures of the consortium were worked out and one school agreed to become fiscal agent. The consortium became fully operational with a full-time shared computer technologist by the last week of November, 1982. One of the original seven schools, more distant from the other six, chose not to become a member. A unique feature of the consortium was the simultaneous agreement that the Missouri DESE should become a part of the consortium and share the time of the computer technologist. This involvement resulted in 140 DESE staff receiving computer literacy training. Moreover, continuing cooperative involvement of the DESE contributed to enhanced legitimacy and importance of the consortium.

The Roles of Each Member

In an effort to better understand the working relationship of the consortium, the following description of the role of each participating member is provided.

McREL - As previously mentioned this Federal agency stimulated the idea of a consortium. Working through the State Department of Education they initiated meetings with members to discuss the feasibility of this concept. This agency also provided partial funding for the project, served as a consultant and resource base.

State Department of Education - Provided leadership by assuming responsibility for facilitating communications among members, and determining meeting times and agenda items. This agency also advised to insure the consortium worked within the guidelines and regulations established by the state as well as those agreed upon by the members.

School Districts - Superintendents represented each district and agreed to "sell" the consortium idea to their respective boards. They assumed responsibility for communications within their districts, and for identifying particular needs concerning microcomputer instruction in their schools. One district assumed responsibility for all financial transactions and record keeping.

State University - Acting as resource/consultant they provided current information and technical assistance for the group. In-service programs were developed by this agency, and most meetings were held on the campus. The university also assumed responsibility for documentation and evaluation of the consortium project.

Results

Focusing its resources on the use of microcomputers for instruction, the consortium agreed to hire a full-time consultant to work with each school district. The consultant spent equal time with each member district in an effort to: 1) upgrade faculty and administrator computer literacy, 2) facilitate the development of computer assisted instruction, 3) explore possibilities for using microcomputers for instructional management and 4) develop an awareness of available networking into data bases to expand instructional resources to small schools. Traveling to individual schools on a regularly scheduled basis the consultant provided in-service opportunities in each of these four areas for the teachers in each district. As a result of the in-service workshops many informal groups of interested teachers have formed to provide local and interdistrict support systems for professional development.

Along with the in-service efforts, the consortium can boast of a wide range of other accomplishments. As a result of their concerted efforts they have made a wide range of instructional software available to teachers, including those available from the Minnesota Educational Computing Consortium (MECC). Through coop purchasing, significant savings on hardware were possible, enabling districts to increase availability to students and teachers.

Perhaps most importantly is the camaraderie which has evolved over time. On numerous occasions members have expressed a desire to expand their efforts beyond microcomputer instruction to explore other areas of common concern. A result was that the consortium has dropped from its name any reference to computers.

At the spring 1983 consortium meeting it was agreed that the group would continue operation through the 1983-1984 school year and that the computer technologist would be retained for the upcoming academic year. One of the participating schools dropped out of the consortium for the 1983-84 school year. The school that dropped was the one most remotely located from the others.

The Missouri DESE continues as a member of the consortium, and has agreed to provide encouragement and technical assistance to other clusters of rural schools around the state wishing to follow the examples of the Mid-Missouri Small Schools Consortium. With that objective in mind, a group of about 30 superintendents was invited to a session in Jefferson City in August 1983 to share with them the experiences of the Mid-Missouri consortium and to encourage them to take the initiative to form others.

Conclusion

While formal evaluation of all data to be used in the detailed assessment of this project is not completed, some observations can be offered to other rural districts who find a consortium approach to solving problems appealing. Informal discussions with members related to the success of the consortium plus experience with others lead us to formulate the following tentative conclusions about effective consortium operation:

1. PURPOSE - a consortium may be organized for any purpose where there is a clear advantage to be gained from cooperation and/or pooling funds. Some kinds of consortia such as athletic conferences have been a standard method of operation for many years. Consortia have also been found to be effective in attracting supplementary funding.

2. SIZE - they seem to work best with at least 3, but no more than 7 or 8 members.

3. LOCATION - they work best if the cooperating schools are close together. It facilitates more frequent meetings and makes it easier to share a service or program.

4. MEMBERSHIP - consortia seem to work best if the member schools are of similar size. Schools of similar size in the same region, tend to have similar problems which might be effectively addressed by cooperation. Even for similar problems large schools tend to have different methods and resources.

5. ORGANIZATION - a consortium doesn't require any formal organization. They seem to work best when they remain informal.

6. LEADERSHIP - a consortium doesn't require a formal leader but they work best if the superintendent represents each member school in the consortium. One superintendent might be elected to serve as chair or convener.
   Even if other school personnel are involved in the consortium they seem to work best if the superintendent takes an active role and represents their school at consortium meetings.

7. FINANCES - if the consortium involves pooling funds from each school to hire a specialist, buy some specialized equipment, etc. it seems to work best if one school agrees to serve as fiscal agent, employing district, etc. Under that arrangement each district contributes an agreed amount to the fiscal agent school, which then takes responsibility for paying consortium bills, accounting for funds, etc.
   If the consortium involves hiring of personnel, it seems to work best if one district officially employs the person but with an agreement about how the person's time will be allocated among districts.

8. FREQUENCY OF MEETINGS - consortia seems to work best if there are monthly meetings of the superintendents of the consortium schools. Frequent meetings tend to reinforce support for the consortium activity and maintain the cooperative working relationship essential to consortium effectiveness.
   Meetings not only tend to keep the consortium idea on track but also tend to produce new ideas.

9. OUTSIDE RESOURCES - while not essential, experience with several consortia suggests that they tend to be more effective if they take advantage of outside resource persons such as from colleges, the state department, public agencies, etc., to work with the consortium toward accomplishing its objectives. Experience has also shown that such resource persons are often willing to work with a consortium whereas they might be less willing to work with an individual school.

   Developing an on-going relationship with some resource persons or organizations seems to also contribute to consortium longevity and effectiveness.

While the above considerations may not prove generalizable to all small schools comtemplating similar actions it is hoped they will prove helpful. Certainly in this era of decentralized and declining resources, many small schools may have to consider such alternatives to provide an adequate education for their pupils.

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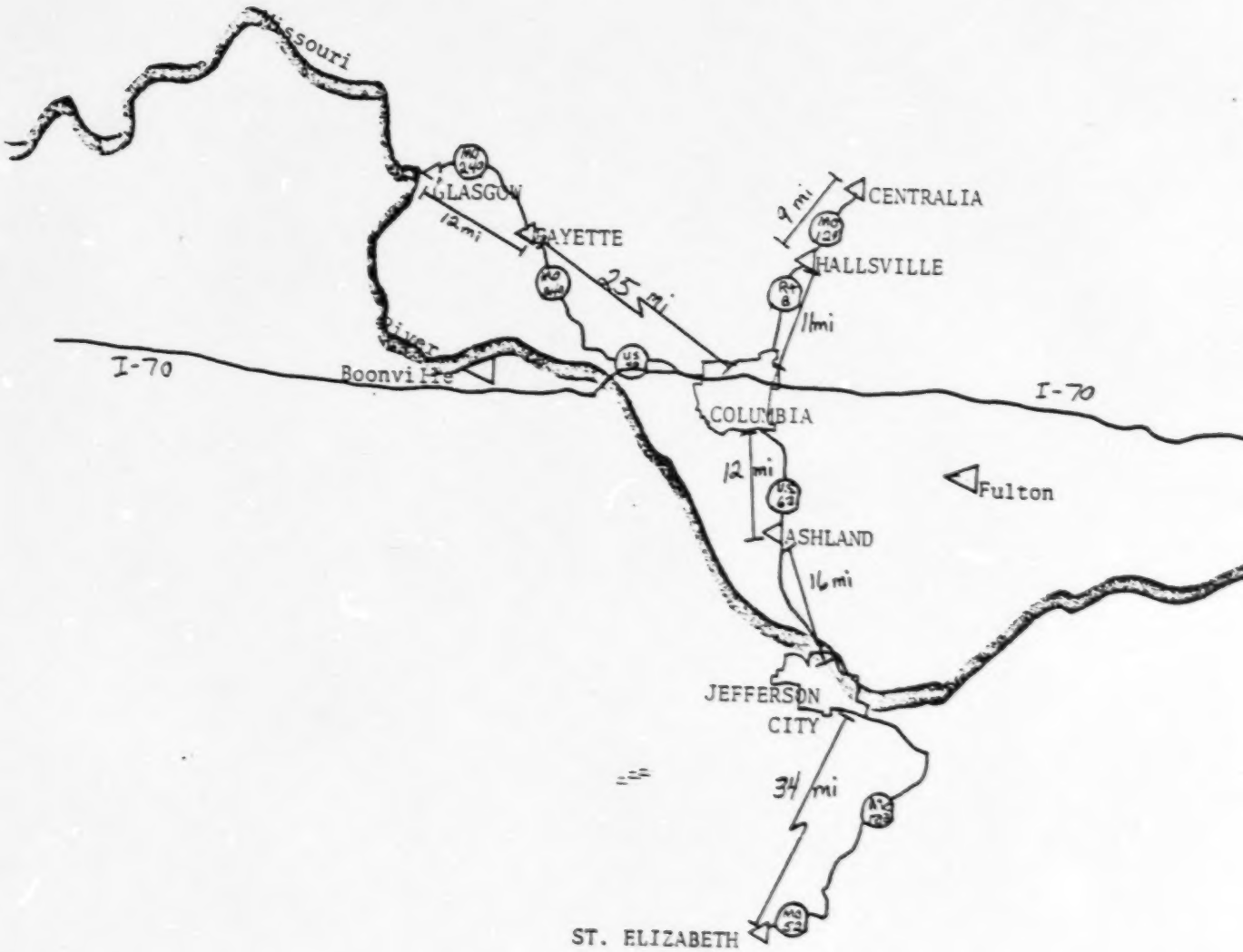
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